REMARKS

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached Appendix is captioned "**Version with markings to show changes made.**"

Claims 3, 4, 8 and 9 stand objected to for including several informalities. Applicants have amended these claims to eliminate the informalities noted by the Examiner. Applicants respectfully request the withdrawal of the objection to Claims 3, 4, 8 and 9.

Claims 1-11 stand rejected under 35 U.S.C. § 103 as being unpatentable over United States Patent No. 6,280,813 to Carey et al. in view of the abstract of a Journal of Applied Physics article to Ounadjela et al., the English abstract of a Russian journal article to Akopyan et al. and United States Patent No. 6,221,481 to Wu et al. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references fail to disclose or suggest the present invention. More specifically, none of the cited references, alone or in combination, disclose or suggest the claimed magnetic recording medium that includes, *inter alia*, a "non-magnetic coupling layer being made of a Ru-M3 alloy, where M3 is an added element or alloy, and [wherein] a lattice mismatch between said non-magnetic coupling layer and said magnetic layer and said ferromagnetic layer respectively disposed above and below said non-magnetic coupling layer is adjusted to approximately 6% or less by addition of M3, as defined in independent Claims 1 and 10. Nor do the cited references disclose or suggest

the magnetic recording medium defined in Claims 5 and 11, which includes, *inter alia*, a "non-magnetic coupling layer being made of a Ru-M3 alloy, where M3 = Co, Cr, Fe, Ni, Mn or alloys thereof."

Briefly, the Carey et al. reference merely discloses a magnetic recording medium having an exchange layer structure. As correctly acknowledged by the Examiner, the Carey et al. reference is silent with regard to a Ru-M3 non-magnetic coupling layer, as well as to such a layer having a lattice mismatch of approximately 6% or less relative to both the magnetic layer disposed above the non-magnetic coupling layer and the ferromagnetic layer disposed below the non-magnetic coupling layer.

The Ounadjela et al. reference merely discloses that the lattice mismatch between a Co layer and an Ru layer is large, a point discussed in the present specification. The Akopyan et al. reference appears to disclose that the lattice constant of an Ru changes when additives are includes with the Ru. However, the Akopyan et al. reference only discusses an Ru alloy layer by itself, and not how an Ru alloy layer interacts with other layers of different materials. Thus, the Akopyan et al. reference provides no teaching regarding the characteristics of an Ru alloy layer within a magnetic medium, such as the Ru alloy layer between the magnetic layer and the ferromagentic layer of the present invention.

Even assuming *arguendo* that one of ordinary skill in the art could predict that the lattice mismatch between the Ru layer and the magnetic and ferromagnetic layers would change if an additive is included with the Ru, it would not have been obvious that the lattice

mismatch would be reduced when an additive is added to the Ru layer. None of the cited references, including the Akopyan et al. reference, disclose or suggest that the lattice mismatch can be reduced by adding an additive to the Ru layer.

The inclusion of the Wu et al. reference does not provide the necessary teaching either. The Wu et al. reference merely discloses that lattice matching affects the epitaxial growth and the signal-to-noise ratio of a recording medium. However, there is no teaching in the Wu et al. reference related to the lattice mismatch between an Ru layer and the adjacent magnetic and ferromagnetic layers of a stacked structure in a magnetic recording medium.

Accordingly, as all of the features defined in independent Claims 1, 5, 10 and 11 are not disclosed or suggested in the cited references, Applicants respectfully request the withdrawal of the § 103 rejection of these independent claims.

Claims 2-4 and 6-9 all depend from either independent Claim 1 or from independent Claim 5, and therefore include all of the features of either Claim 1 or Claim 5, plus additional features. Accordingly, Applicants respectfully request that the § 103 rejection of dependent Claims 2-4 and 6-9 under the combination of Carey et al., Ounadjela et al., Akopyan et al. and Wu et al. be withdrawn considering the above remarks directed to independent Claims 1 and 5.

For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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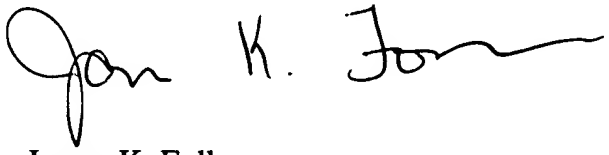
By 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 3, 4, 8, and 9 have been amended as follows:

3. (Once Amended) The magnetic recording medium as claimed in claim 1, wherein said ferromagnetic layer is made of a material selected from a group consisting of Co, Ni, Fe, [Ni based] Ni alloys, [Fe-based] Fe alloys, and [Co-based] Co alloys [including] which include CoCrTa, CoCrPt and CoCrPt-M2, where M2 = B, Mo, Nb, Ta, W, Cu or alloys thereof.

4. (Once Amended) The magnetic recording medium as claimed in claim 1, wherein said magnetic layer is made of a material selected from a group consisting of Co[,] and [Co-based] Co alloys [including] which include CoCrTa, CoCrPt and CoCrPt-M4, where M4 = B, Mo, Nb, Ta, W, Cu or allows thereof.

8. (Once Amended) The magnetic recording medium as claimed in claim 5, wherein said ferromagnetic layer is made of a material selected from a group consisting of Co, Ni, Fe, [Ni-based] Ni alloys, [Fe-based] Fe alloys, and [Co-based] Co alloys [including] which include CoCrTa, CoCrPt and CoCrPt-M2, where M2 = B, Mo, Nb, Ta, W, Cu or alloys thereof.

9. (Once Amended) The magnetic recording medium as claimed in claim 5, wherein said magnetic layer is made of a material selected from a group of Co[,]and [Co-based] Co alloys [including] which include CoCrTa, CoCrPt and CoCrPt- M4, where M4 = B, Mo, Nb, Ta, W, Cu or alloys thereof.